ABSTRACT OF THE DISCLOSURE

Several MEMS-based methods and architectures which utilize vibrating micromechanical resonators in circuits to implement filtering, mixing, frequency reference and amplifying functions are provided. Apparatus is provided for filtering signals utilizing vibrating micromechanical resonators. One of the primary benefits of the use of such architectures is a savings in power consumption by trading power for high selectivity (*i.e.*, high Q). Consequently, the present invention relies on the use of a large number of micromechanical links in SSI networks to implement signal processing functions with basically zero DC power consumption.